

Appl. No.: 10/033,715
Amdt. Dated: 12/14/2004
Off. Act. Dated: 07/14/2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): A multilayer light emitting device, comprising:
a polysilicon electron emitting layer;
an amorphous insulating layer over the electron emitting layer; and
a direct bandgap light emitting layer over the insulating layer;
wherein electrons emitted from the electron emitting layer pass through the insulating layer and into the light emitting layer and are converted into bandgap radiation by the light emitting layer; and
wherein said electron emitting layer is formed with asperities that promote field emission of electrons into the insulating layer without requiring formation of artificial emitter tips.
2. (canceled)
3. (original): A light emitting device as recited in claim 1, wherein said insulating layer comprises SiO₂.
4. (original): A light emitting device as recited in claim 1, wherein said light emitting layer comprises GaInP.
5. (original): A light emitting device as recited in claim 1, wherein said insulating layer and said electron emitting layer comprise in combination an oxidized polysilicon layer.

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6. (currently amended): A multilayer light emitting device, comprising:
an oxidized polysilicon layer; and
a direct bandgap light emitting layer over said oxidized polysilicon layer;
wherein electrons emitted from the oxidized polysilicon layer are converted into
bandgap radiation by the light emitting layer; and
wherein said oxidized polysilicon layer is formed with asperities that promote field
emission of electrons without requiring formation of artificial emitter tips.

7. (original): A light emitting device as recited in claim 6, wherein said light
emitting layer comprises GaInP.

8. (currently amended): A multilayer light emitting device, comprising:
an oxidized polysilicon layer; and
a GaInP layer over said oxidized polysilicon layer;
wherein said oxidized polysilicon layer is formed with asperities that promote field
emission of electrons without requiring formation of artificial emitter tips.

9. (original): A light emitting device as recited in claim 8, wherein electrons
emitted from the oxidized polysilicon layer are converted into bandgap radiation by the
GaInP layer.

10. (currently amended): A multilayer light emitting device, comprising:
an oxidized polysilicon layer; and
a direct bandgap semiconductor layer over said oxidized polysilicon layer;
wherein said oxidized polysilicon layer is formed with asperities that promote field
emission of electrons without requiring formation of artificial emitter tips.

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11. (original): A light emitting device as recited in claim 10, wherein electrons emitted from the oxidized polysilicon layer are converted into bandgap radiation by the direct bandgap layer.

12. (original): A light emitting device as recited in claim 11, wherein said direct bandgap layer comprises GaInP.

Claims 13-15 (canceled)

16. (currently amended): A light emitting panel comprising a plurality of devices as recited in claim 1, 6, 8, or 10 ~~or 13~~ arranged in a mosaic array.

17. (currently amended): A method for generating light emission in a multilayer light emitting device, comprising:

injecting electrons from a polysilicon electron emitting layer through an insulating layer and into a direct bandgap light emitting layer where said electrons are converted into to bandgap radiation;

wherein said electron emitting layer comprises a material formed with asperities that promote field emission of electrons into said insulating layer without requiring formation of artificial emitter tips.

18. (canceled)

19. (original): A method as recited in claim 17, wherein said insulating layer comprises SiO₂.

20. (original): A method as recited in claim 17, wherein said light emitting layer comprises GaInP.

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21. (original): A method as recited in claim 17, wherein said insulating layer and said electron emitting layer comprise in combination an oxidized polysilicon layer.

22. (currently amended): A method for generating light emission in a multilayer light emitting device, comprising:

injecting electrons from an oxidized polysilicon layer into a direct bandgap light emitting layer where said electrons are converted into to bandgap radiation;

wherein said oxidized polysilicon layer is formed with asperities that promote field emission of electrons without requiring formation of artificial emitter tips.

23. (original): A method as recited in claim 22, wherein said light emitting layer comprises GaInP.

24. (original): A method for generating light emission in a multilayer light emitting device, comprising:

injecting electrons from an oxidized polysilicon layer into a GaInP layer where said electrons are converted into to bandgap radiation.

25. (currently amended): A method for generating light emission in a multilayer light emitting device, comprising:

injecting electrons from an oxidized polysilicon layer into a direct bandgap semiconductor layer where said electrons are converted into to bandgap radiation;

wherein said electron emitting layer comprises a material formed with asperities that promote field emission of electrons into said insulating layer without requiring formation of artificial emitter tips.

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26. (original): A method as recited in claim 25, wherein said direct bandgap layer comprises GaInP.

27. (currently amended): A method for generating light emission in a multilayer light emitting device, comprising:

injecting electrons from [[a]] an oxidized polysilicon electron emitting layer into a GaInP layer where said electrons are converted into to bandgap radiation;

wherein said oxidized polysilicon layer is formed with asperities that promote field emission of electrons without requiring formation of artificial emitter tips.

28. (original): A method as recited in claim 27, wherein said electron emitting layer comprises oxidized polysilicon.